

Amendments to the claims:

Claims 1-32 (canceled).

33. (new) A cooled furnace wall comprising:
a furnace shell with connection openings therein, said furnace shell having an inner and an outer side; and
cooling plates lining said inner side of said furnace shell, each of said cooling plates having a plate body and protruding connection pieces extending through said connection openings for supplying said cooling plate with a coolant;
wherein at least one of said protruding connection pieces is a tube bend connection piece formed by a tube bend that protrudes from an edge face of said plate body and that has a connection end extending through one of the connection openings in said furnace shell where it is interconnected to a connection piece of an adjacent cooling plate from said outer side of said furnace shell.

34. (new) The furnace wall according to Claim 33, comprising:
a flexible connection means interconnecting said connection end of a tube bend connection piece from a first cooling plate to said connection end of a tube bend connection piece from a adjacent cooling plate.

35. (new) The furnace wall according to Claim 33, comprising:
a connection box that is arranged on said outer side of said furnace shell above one of said connection openings;
wherein connection ends of said tube bend connection pieces extend into said connection box where they are interconnected by means of flexible connection means.

36. (new) The furnace wall according to Claim 35, wherein said connection box is sealed off by means of a removable blind flange.

37. (new) The furnace wall according to Claim 36, wherein said connection box is dimensioned so that one of said cooling plates can be removed from said furnace or introduced into said furnace through said connection box.

38. (new) The furnace wall according to Claim 37, wherein adjacent connection openings in the furnace shell are vertically offset.

39. (new) The furnace wall according to Claim 35, wherein said flexible connection means comprises a compensation tube bend which is arranged in said connection box.

40. (new) The furnace wall according to Claim 35, wherein said flexible connection means comprises a bent tube segment which is arranged in said connection box and is substantially in the shape of racing cycle handlebars.

41. (new) The furnace wall according to Claim 35, wherein said flexible connection means comprises a metal hose which is arranged in said connection box where it is coupled to said connection ends of a pair of tube bend connection pieces.

42. (new) The furnace wall according to Claim 34, wherein:
said connection opening in said furnace shell is covered by a socket piece that has for each connection end a separate through-opening; and
each of said connection ends is connected in a sealed manner to said socket piece by means of a compensator.

43. (new) The furnace wall according to Claim 33, wherein:
a plate extension is arranged at said edge face of said cooling plate in front of said tube bend connection pieces, so that it shields said tube bend connection pieces with respect to the interior of the furnace.

44. (new) The furnace wall according to Claim 34, wherein said cooling plates lining said inner side of said furnace shell comprise:
a lower row of cooling plates separated by vertical joins;
an upper row of cooling plates separated by vertical joins and located vertically directly above said lower row;
wherein said vertical joins separating the cooling plates of said upper row are offset relative to said vertical joins separating the cooling plates of said lower row.

45. (new) The furnace wall according to Claim 44, wherein:
said tube bend connection pieces of a cooling plate of said lower row are connected to
said tube bend connection pieces of two adjacent cooling plates of said upper row.
46. (new) The furnace wall according to Claim 33, wherein said edge face of
the plate body from which said tube bend connection piece protrudes is bevelled
towards said inner side of said furnace shell.
47. (new) The furnace wall according to Claim 46, wherein said bevelled edge
face forms an angle of between 105° and 135° with respect to the rear side of said
cooling plate.
48. (new) The furnace wall according to Claim 47, wherein said bevelled edge
face forms an angle of approximately 120° with the rear side of said cooling plate.
49. (new) The furnace wall according to Claim 46, wherein for two cooling
plates which are interconnected by means of said tube bend connection pieces, the
opposite edge faces from which said tube bend connection pieces protrude are bevelled
in a mirror image, so that they delimit a wedge-shaped space which narrows towards
the interior of said furnace.
50. (new) The furnace wall according to Claim 49, wherein:
the plate bodies of said two cooling plates are arranged vertically directly above one
another, so that an upper edge face of the lower plate body is directly facing a lower
edge face of the upper plate body; and
said upper edge face of the lower plate body has a nose-like projection which is
bevelled parallel to said lower edge face of the upper plate body, so that said nose-like
projection and said lower edge face of the upper plate body form a gap which slopes
upwards towards said inner side of said furnace shell.

51. (new) The furnace wall according to Claim 50, wherein:
the plate bodies of said two cooling plates are arranged vertically directly above one another, so that an upper edge face of the lower plate body is directly facing a lower edge face of the upper plate body; and
said lower edge face of the upper plate body has a nose-like projection which is bevelled parallel to said upper edge face of the lower plate body, so that said nose-like projection and said upper edge face of the lower plate body form a gap which slopes downwards towards said inner side of said furnace shell.
52. (new) The furnace wall according to Claim 50, wherein the two bevelled edge faces each have a nose-like projection facing towards the interior of the furnace, and the two nose-like projections overlap.
53. (new) The furnace wall according to Claim 33, wherein said tube bend connection pieces have at the outlet from said edge face a first curvature in a mid-plane of said plate body and thereafter a second curvature in a plane perpendicular to said mid-plane of said plate body.
54. (new) The furnace wall according to Claim 53, wherein such a tube bend connection piece is composed of a 30° tube bend and a 90° tube bend, the centre lines of which lie in planes which are perpendicular to one another.
55. (new) The furnace wall according to Claim 53, comprising:
two adjacent cooling plates, which are arranged above or next to one another in such a manner that the outlet of a tube bend connection piece in one edge face of the first cooling plate and the outlet of a tube bend connection piece in an opposite edge face of the second cooling plate lie axially opposite one another;
wherein:
said first curvature of a tube bend connection piece of said first cooling plate is directed in a first direction, and said first curvature of a tube bend connection piece of said second cooling plate is directed in the opposite direction.

56. (new) The furnace wall according to Claim 55, wherein:
said second curvature of said tube bend connection piece of said first cooling plate and
said second curvature of said tube bend connection piece of said second cooling plate
define parallel planes of curvature; and
the distance between two of such parallel planes of curvature that are adjacent
corresponds to 1.1 to 1.5 times the tube diameter of said tube bends.

57. (new) The furnace wall according to Claim 55, wherein:
the opposite edge faces of the two plate bodies are bevelled in mirror-image fashion, so
as to delimit a wedge-shaped space which narrows towards the interior of the furnace;
said connection end of a tube bend connection piece of said first cooling plate extends
through said connection opening behind the bevelled edge face of said second cooling
plate; and
said connection end of a tube bend connection piece of said second cooling plate
extends through said same connection opening behind the bevelled edge face of said
first cooling plate.

58. (new) The furnace wall according to Claim 33, comprising a plug made
from an elastic material that is inserted into one of said connection openings in said
furnace shell.

59. (new) The furnace wall according to Claim 58, wherein said plug has a
lateral securing flange which is clamped between said cooling plates and said furnace
shell.

60. (new) The furnace wall according to Claim 58, wherein:
on said outer side of said furnace shell, a connection box is arranged above said
connection opening;
at least two connection ends extend through said plug into this connection box, where
they are interconnected by means of flexible connection means; and
a section of said connection box between said plug and said flexible connection means is
sealed with a foamed sealing material.

61. (new) The furnace wall according to Claim 60, wherein said connection box has a leak-test valve at its lowest point.

62. (new) The furnace wall according to Claim 33, wherein:
at least one of said cooling plates lining said inner side of said furnace shell has at least one cooling passage which is formed directly in said plate body;
said cooling passage forms an opening in said edge face of said plate body; and
a first end of said tube bend is inserted into said opening in said edge face.

63. (new) The furnace wall according to Claim 62, further including a turbulator mounted in said cooling passage, wherein:
said turbulator includes a turbulator body and a ring-shaped fixing flange;
said turbulator body is axially inserted into said cooling passage;
said ring-shape fixing flange bears on a shoulder surface in said opening of said cooling channel; and
said ring-shape fixing flange is blocked on said shoulder surface by means of said first end of said tube bend that is inserted into said opening in said edge face.

64. (new) The furnace wall according to Claim 33, wherein:
at least one of said cooling plates lining said inner side of said furnace shell has at least one cooling passage which is formed by a cast-in tube; and
at least one end of said tubes protrudes from an edge face of said plate body and forms said tube bend connection piece.